

Radiology Compliance Branch

RADIATION PROTECTION SECTION



Division of Health Service Regulation • N.C. Department of Health and Human Services

Radiation Safety Officer – Larger Facilities

The Radiation Safety Officer should be qualified by training and experience in radiation protection. The (RSO) is charged with the responsibility for radiation safety, responsible for the day-to-day operation of the radiation safety program, and is generally available to give advice and assistance on radiological safety matters. The RSO should also possess an extensive scientific background, as well as, experience in both radiation control and involvement in a medical setting that requires a radiation safety program.

Credentials and Education

A fully functional RSO should have credentials in the field of medical radiation physics and/or health physics. Others that qualify include, but are not limited to, persons holding the degree of doctor of medicine or doctor of osteopathy and licensed to practice medicine or surgery. Some of these modalities include: radiology, dentistry, podiatry, and chiropractic medicine. Credentials in the field of nuclear medicine; knowledge in the field of public health or environmental science, and experience in the administration and enforcement of federal radiation protection regulations are also potential qualifying credentials.

The NRC believes that to demonstrate adequate training and experience, the RSO should have, at a minimum, a college degree at the bachelor level or equivalent training and experience in physical, chemical, biological sciences, or engineering; and/ or training and experience commensurate with the scope of proposed activities. Training should include the following subjects:

Radiation protection principles:

Characteristics of ionizing radiation:

Units of radiation dose and quantities:

Radiation detection instrumentation:

Biological hazards of exposure to radiation:

Guidance on training and experience:

Interpersonal and communication skills:

NRC regulatory requirements and standards: and



State of North Carolina's requirements and standards:

Other areas that should be addressed include- radiation detection using radiation detection instruments and personnel dosimeters, as well as, basic radiation protection principles and good safety practices (including time, distance, and shielding).

Regulatory Criteria

Know NRC Dose limits.

Know State of North Carolina's requirements for radiation safety and protection

Knowledge of materials, control and accountability.

Record keeping and maintenance of records, especially equipment transfer and disposal.

Ensure security, and protection for all persons.

Authority to stop unsafe activities, handles deliberate misconduct, and investigates abnormal events.

Recognize and ensure that radiation warning signs are visible and legible.

Assist, interact, and be available for licensing and inspections by regulatory agencies.

Supervise decontamination, train personnel, and supervise annual audit of radiation safety program

When handling incidents, the RSO must retain case histories of accidents and all problems involving radiation.

Recommended Training and Minimum Experience for a Healthcare Facility RSO

Formal education and certification.

Comprehensive certification by the American Board of Health Physics or the American Board of Medical Physics in medical health physics.

Graduate degree in health physics, medical physics, radiation physics, nuclear engineering, radiation biology, or nuclear physics.

Bachelor's degree in health physics, medical physics, radiation physics, nuclear engineering, radiation biology, or nuclear physics.

Certification in radiology, nuclear medicine, or radiation therapy; or registration in radiography, nuclear medicine technology, radiation therapy technology, or radiation protection technology.

Residency in radiology

Forty-hour training course, by an accredited university, college or radiation protection course.

Checklist for Radiation Safety Officer's Experience

Name of RSO candidate

Education (degree, major, and institution)

Certification (specialty, category, month and year certified, and dates of certification renewal)

Dates and locations of all practical clinical experience

Training received in basic radioisotope-handling techniques

Experience using radioisotopes; diagnostic and therapeutic

Experience supervising use of radioisotopes- diagnostic and therapeutic

Experience implementing a radiation safety program

Some administrative and supervisory experience

Computer expertise (e.g., word processing, databases, or spreadsheets)

Experience with regulatory agencies both state and federal

Public speaking abilities

Ability to interact positively with clinical and scientific staff

Experience interacting with clinical staff, patients, and general public

Affiliations or service with professional organizations

Appointments to committees with professional organizations

Awards, scientific presentations, and publications

All workers, working with and around radiation should conduct their activities with the utmost regard for the safety of themselves and others.